

Fifty two years ago in Jerusalem

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On 5-12 July 1960 in Jerusalem was held *International Symposium on Linear Spaces* at the Hebrew University of Jerusalem under auspices of the International Mathematical Union. The nice photo of 47 speakers and participants was done there. Larger audience of mathematicians should see it since we can find here several famous mathematicians.



Jerusalem, July 1960. 1. John **Wermer** (1927), 2. Leon **Ehrenpreis** (1930–2010), 3. Wilhelmus Anthonius Josephus **Luxemburg** (1929), 4. Adriaan Cornelis **Zaanen** (1913–2003), 5. Aryeh **Dvoretzky** (1916–2008), 6. Michael Bahir **Maschler** (1927–2008), 7. Israel **Halperin** (1911–2007), 8. Ralph Saul **Phillips** (1913–1998), 9. Louis **Nirenberg** (1925), 10. Władysław **Orlicz** (1903–1990), 11. Gottfried **Köthe** (1905–1989), 12. Einar **Hille** (1894–1980), 13. Jean Alexandre Eugène **Dieudonné** (1906–1992), 14. Marshall Harvey **Stone** (1903–1989), 15. Richard **Arens** (1919–2000), 16. George Whitelaw **Mackey** (1916–2006), 17. Lipman **Bers** (1914–1993), 18. Daniel **Sternheimer** (1938), 19. unknown, 20. Irving **Kaplansky** (1917–2006), 21. Jean-Pierre **Kahane** (1926), 22. José Luis **Massera** (1915–2002), 23. Abraham **Robinson** (1918–1974), 24. Eliahu **Shamir** (1934), 25. Ichiro **Amemiya** (1923–1995), 26. Angus Ellis **Taylor** (1911–1999), 27. Dan **Amir** (1933), 28. Emilio **Gagliardo** (1930–2008), 29. Robert Elston **Fullerton** (1906–1963), 30. Victor **Klee** (1925–2007), 31. Tamar **Berger-Burak** (1938), 32. unknown, 33. Henry **Helson** (1927–2010), 34. Harry **Kesten** (1931), 35. Haim

Amsterdamer, 36. Frank Featherston **Bonsall** (1920-2011), 37. Nachman **Aronszajn** (1907–1980), 38. Joram **Lindenstrauss** (1936-2012), 39. Shmuel **Agmon** (1922), 40. Guido **Stampacchia** (1922–1978), 41. Amram **Meir** (1929), 42. Peter David **Lax** (1926), 43. Leopoldo **Nachbin** (1922–1993), 44. unknown, 45. Meir **Reichaw** [Marian **Reichbach**] (1923-2000), 46. Edmond Ernest **Granirer** (1935), 47. Paul **Katz** (1924-2005).

Three mathematicians are not recognized on the photo, namely, number 19, 32 and 44. I will be grateful if anyone can recognize them and inform me about this. I would like to mention that two more mathematicians were at the symposium but I don't see them on the photo: Gaetano **Fichera** (1922–1996) and Jan **Mikusinski** (1913–1987).

Lectures were given on Tuesday, July 5 by Stone, Dieudonné, Aronszajn, Klee, Dvoretzky, Bers; on Wednesday, July 6 by Ehrenpreis, Fichera, Hille, Taylor, Massera; on Thursday, July 7 by Zaanen, Bonsall, Amemiya, Wermer, Mikusiński, Arens; on Friday, July 8 by Halperin, Gagliardo, Lax; on Monday, July 11 by Orlicz, Phillips, Köthe, Mackey, Stampacchia, Nirenberg, Agmon; on Tuesday, July 12 by Nachbin, Helson, Kahane, Luxemburg and Fullerton.

Lectures from this conference appeared as proceedings [2], where we find the following 32 important contributions (with pages in [2]):

S. Agmon, *Remarks on self-adjoint and semi-bounded elliptic boundary value problems* (1-13), I. Amemiya, *On ordered topological linear spaces* (14-23), R. Arens, *The analytic-functional calculus in commutative Banach algebras* (24-28), N. Aronszajn, *Quadratic forms on vector spaces* (29-87), L. Bers, *Completeness theorems for Poincaré series in one variable* (88-100), F. F. Bonsall, *Semi-algebras of continuous functions* (101-114), J. Dieudonné, *Quasi-hermitian operators* (115-122), A. Dvoretzky, *Some results on convex bodies and Banach spaces* (123-160), L. Ehrenpreis, *A fundamental principle for systems of linear differential equations with constant coefficients, and some of its applications* (161-174), G. Fichera, *Spazi lineari di k -misura e di forme differenziali* (175-226), R. E. Fullerton, *Geometrical characterizations of certain function spaces* (227-236), E. Gagliardo, *A unified structure in various families of function spaces. Compactness and closure theorems* (237-241), I. Halperin, *Function spaces* (242-250), H. Helson and D. Lowdenslager, *Invariant subspaces* (251-262), E. Hille, *Linear differential equations in Banach algebras* (263-273), J.-P. Kahane, *Fonctions pseudo-périodiques dans R^p* (274-281), V. Klee, *Relative extreme points* (282-289), G. Köthe, *Probleme der linearen Algebra in topologischen Vektorräumen* (290-298), P. D. Lax, *Translation invariant spaces* (299-306), W. A. J. Luxemburg, *On closed linear subspaces and dense linear subspaces of locally convex topological linear spaces* (307-318), G. W. Mackey, *Induced representations and normal subgroups* (319-326), J. L. Massera, *Function spaces with translations and their application to linear differential equations* (327-334), J. Mikusinski, *Operations on distributions* (335-339), L. Nachbin, *Some problems in extending and lifting continuous linear transformations* (340-350), L. Nirenberg, *Inequalities in boundary value problems for elliptic differential equations* (351-356), W. Orlicz, *On spaces of ϕ -integrable functions* (357-365), R. S. Phillips, *The extension of dual subspaces invariant under an algebra* (366-398), G. Stampacchia, *Régularisation des solutions de problèmes aux limites elliptiques à données discontinues* (399-408), M. H. Stone, *Hilbert space methods in conformal mapping* (409-425), A. E. Taylor, *Spectral theory and Mittag-Leffler type expansions of the resolvent* (426-440), J. Wermer, *Subalgebras of $C(X)$* (441-447), A. C. Zaanen, *Banach function spaces* (448-452).

It should be mention that this photo was published in the book [1, p. 331] with the wrong information: *Robinson at the International Congress for Logic, Methodology, and Philosophy of Science, Jerusalem, 1964*, and without description of the names of persons on it. I have got this photo from the wife of W. Orlicz, after his death in 1990. He was my supervisor of Ph. D. defended in 1979 at the University of Poznań in Poland.

Acknowledgments. I wish to thank Dany Leviatan (Tel Aviv), Dan Amir (Tel Aviv), Jean-Pierre Kahane (Paris), Louis Nirenberg (New York), Edmond Ernest Granirer (Vancouver), Daniel Sternheimer (Dijon) and Shmuel Agmon (Jerusalem) for the help in recognition of persons on the photo and completing their dates of birth and death.

References

- [1] J. W. Dauben, *Abraham Robinson. The Creation of Nonstandard Analysis. A Personal and Mathematical Odyssey*, Princeton University Press, Princeton, NJ, 1995.
- [2] *Proceedings of the International Symposium on Linear Spaces* (Jerusalem, 1960), Jerusalem Academic Press, Pergamon Press, Oxford, Jerusalem 1961.

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